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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,140	12/06/2001	Clyde F. Parrish	KSC-12235	6625

7590 11/06/2003

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EXAMINER	
LANGEL, WAYNE A	

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
014140	Parrish
Examiner	**Group Art Unit**
Langel	1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above claim(s) 11-20 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-10 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claim(s) 1-20 are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 7

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 1-10, drawn to a process for oxidizing nitric oxide, classified in Class 423, subclass 402.

II. Claims 11-20, drawn to a system for oxidizing nitric oxide, classified in Class 422, subclass 129.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another and materially different apparatus, such as one which does not include a pipe and an injection nozzle disposed in the pipe.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classifications, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of

their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, and vice versa, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Heald on October 1, 2003 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

> matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4 and 6-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over von Wedel et al. '587. von Wedel et al. '587 discloses a method for removing nitrogen oxides from waste gases, comprising treating the waste gas with a solution of hydrogen peroxide converted into the gaseous state in an amount which is adapted to the amount of nitrogen oxides in the waste gas to be removed to obtain a gaseous reaction mixture containing the nitrogen oxides and the hydrogen peroxide, reacting the gaseous mixture on a solid catalyst which can absorb at least hydrogen peroxide but which does not excessively decompose the hydrogen peroxide, and thereafter withdrawing the reacted gaseous mixture. (See column 16, line 52 - column 18, line 3.) The recitation in applicant's claims of the hydrogen peroxide solution being decomposed into a plurality of oxidative free radicals which further oxidize the nitric oxide to form nitrogen dioxide is in a "whereby" clause and accordingly is not given patentable weight. In any event, von Wedel et al. teach at column 2, lines 64-66 and column 17, lines 1-3 that the hydrogen peroxide is not "excessively decomposed", implying that at least some of the hydrogen peroxide is decomposed. Accordingly at least some of

the hydrogen peroxide solution in the process of von Wedel et al. '587 would inherently be decomposed into a plurality of oxidative free radicals which further oxidize nitric oxide to form nitrogen dioxide, since the hydrogen peroxide comes into contact with the catalyst. The catalyst of von Wedel et al. '587 would constitute a "heated surface", since von Wedel et al. '587 teach at column 2, lines 59-62 that the gaseous mixture is reacted at a temperature of as high as 120°C on the solid catalyst. Regarding claim 6, von Wedel et al. '587 discloses from column 17, line 23 - column 18, line 3 that aluminum oxide, quartz sand or iron oxide may be employed as the catalyst.

Claims 5, 6 and 8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "selected from the group comprising . . ." is improper Markush terminology. The phrase should be changed to --selected from the group consisting of-- to avoid this rejection.

Claims 3 and 10 are objected to as based on rejected parent claims, and would be allowed if written in independent form.

The other references are made of record for disclosing various methods for oxidizing nitric oxide with hydrogen peroxide.

This application apparently discloses allowable subject matter, regarding the subject matter of claims 3, 5 and 10.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (703) 308-0248. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (703) 308-3837. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

WAL:cdc
October 29, 2003

Wayne A. Langel
WAYNE A. LANGEL
PRIMARY EXAMINER